Mobility: Getting Around the Bay Area

Mobility can be defined as the ease of getting around. This section includes statistics describing how easy (or difficult) it was to get around the Bay Area on freeways, local roadways and transit, as well as statistics on the number of vehicles and people that used each of these systems in 2004.

Schedule adherence (on-time performance) is used to describe ease of travel on transit. To track transit usage, the report includes annual ridership statistics reported by transit operators to the Federal Transit Administration.

Congestion levels during the morning and evening commutes provide a key measure of mobility on Bay Area freeways. The report also presents separate statistics on travel time savings offered by carpool lanes and the number of vehicles using carpool lanes.

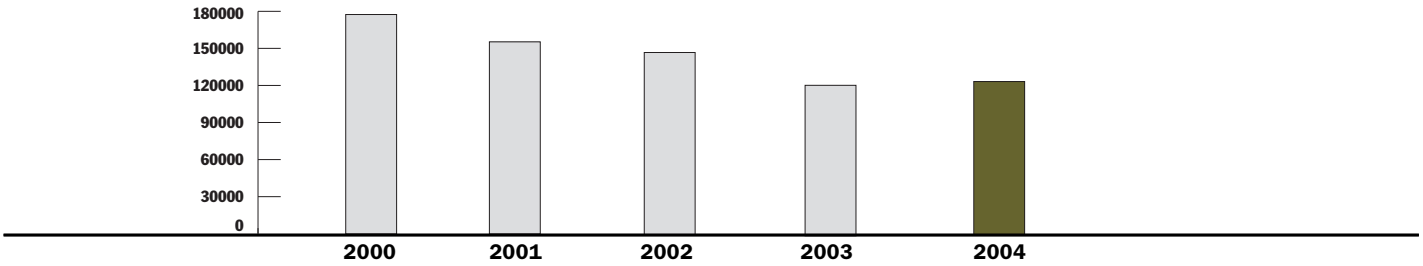
Measuring the ease of travel on the local road network is more challenging because the network is so extensive and is managed by more than 100 different cities and nine counties. Most jurisdictions use an indicator of congestion called "level of service," which corresponds roughly with traffic congestion. This report does not include traffic volumes on local roadways because this information is not consistently monitored or reported. We hope to fill this gap in future reports.

Rebounding Economy Prompts Rise in Freeway Congestion; 2 Percent Increase Ends Three-Year Decline

- Traffic congestion on Bay Area freeways increased in 2004 for the first time since 2000. The daily number of vehicle hours of delay due to congestion in the nine-county region rose by 2 percent in 2004, after dropping 18 percent in 2003, 5 percent in 2002 and 12 percent in 2001.
- The increase in congestion likely reflects the increased level of economic activity in the Bay Area in 2004. This same correlation between the economy and congestion may be borne out by the 2005 congestion statistics, which are expected to be available early in 2006.

Daily Freeway Delay by Bay Area County, 2000–2004

		Daily (Weekday) Vehicle Hours of Delay					Percent Change	
	Freeway Miles (2004)	2000	2001	2002	2003	2004	2003–2004	2000–2004
Alameda	138	61,700	65,600	61,300	46,300	50,540	+9%	–18%
Santa Clara	137	51,700	37,000	31,600	24,300	22,910	–6%	–56%
Contra Costa	87	16,200	18,800	19,400	18,700	18,520	–1%	+14%
San Francisco	19	12,500	8,500	11,400	11,200	8,860	–21%	–29%
San Mateo	73	18,100	10,900	7,700	7,300	7,800	+7%	–57%
Marin	28	9,900	7,900	8,400	6,200	7,410	+20%	–25%
Sonoma	55	4,300	4,400	4,400	5,200	5,320	+2%	+24%
Solano	79	3,200	2,400	3,700	2,600	2,830	+9%	–12%
Napa	5	0	0	0	0	0	n/a	n/a
Bay Area	**621**	**177,600**	**155,500**	**147,900**	**121,800**	**124,190**	**+2%**	**–30%**



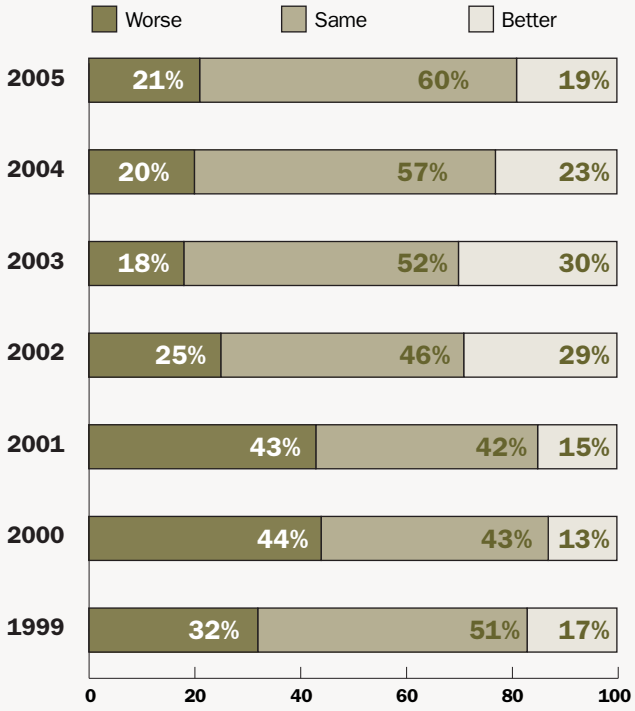
Source: Metropolitan Transportation Commission, Caltrans District 4

- Regionwide, vehicles typically spent 124,190 hours per weekday in congested conditions (defined as average speeds below 35 miles per hour for 15 minutes or longer) on Bay Area freeways in 2004. While this marks a 2 percent increase over 2003 figures, it is far below the 177,600 hours per day recorded in 2000 at the height of the region's technology-charged economic boom.
- The biggest overall increase in freeway congestion occurred in Alameda County, where daily vehicle hours of delay grew by over 4,000 to 50,540. The biggest percentage increase came in Marin County, where daily vehicle hours of delay rose to 7,410 in 2004 from 6,200 the year before — a 20 percent surge. Smaller percentage increases were registered in Alameda, San Mateo, Solano and Sonoma counties.
- Congestion declined by 21 percent on San Francisco freeways, and smaller dips were recorded in Contra Costa and Santa Clara counties.

Top 10 Bay Area Congestion Hot Spots

- The morning approach to the Bay Bridge on Interstate 80 remained the region's most notorious congestion location in 2004 — with daily vehicle hours of delay up a whopping 53 percent from 6,570 hours in 2003 (see page 10). Three of the Bay Area's 10 worst congestion locations now involve the Bay Bridge, including the morning approach along westbound Interstate 80 (a segment that also carries traffic bound for eastbound Interstate 580 and southbound Interstate 880), the eastbound afternoon commute across the span (number 10) and the afternoon approach on eastbound Interstate 80 and northbound U.S. 101 in San Francisco (number 4).
- Interstate 580 in Alameda County is another corridor with multiple high-congestion segments. The morning drive westbound from North Flynn Road at the top of the Altamont Pass to Airway Boulevard in Livermore ranked second on the Bay Area congestion list for 2004, and the afternoon eastbound drive from Hopyard Road in

Commuter Perceptions: Percent of Commuters Who Say Their Commute Is Better or Worse Than Last Year



Source: MTC Regional Rideshare Program

Freeway Congestion (continued)

Pleasanton to El Charro Road came in at number 3. These routes tied for the third spot on the 2003 list.

- One commute returned to the top 10 list after a lengthy absence. The afternoon commute along eastbound State Route 92 from Clawiter Road to Interstate 880 in Hayward climbed to number 6 on the list from number 15 in 2003, marking this segment's first appearance on the top 10 list since the height of the high-tech boom in 2000.
- Newcomers to the list for 2004 include the afternoon drive from Mill Valley to San Rafael on U.S. 101 (number 8), the morning drive along northbound U.S. 101 in San Jose from Interstate 280 to Trimble Road (number 9) and the afternoon Bay Bridge commute on eastbound Interstate 80 from west of the Yerba Buena Island tunnel out past the Powell Street exit in Emeryville (number 10).

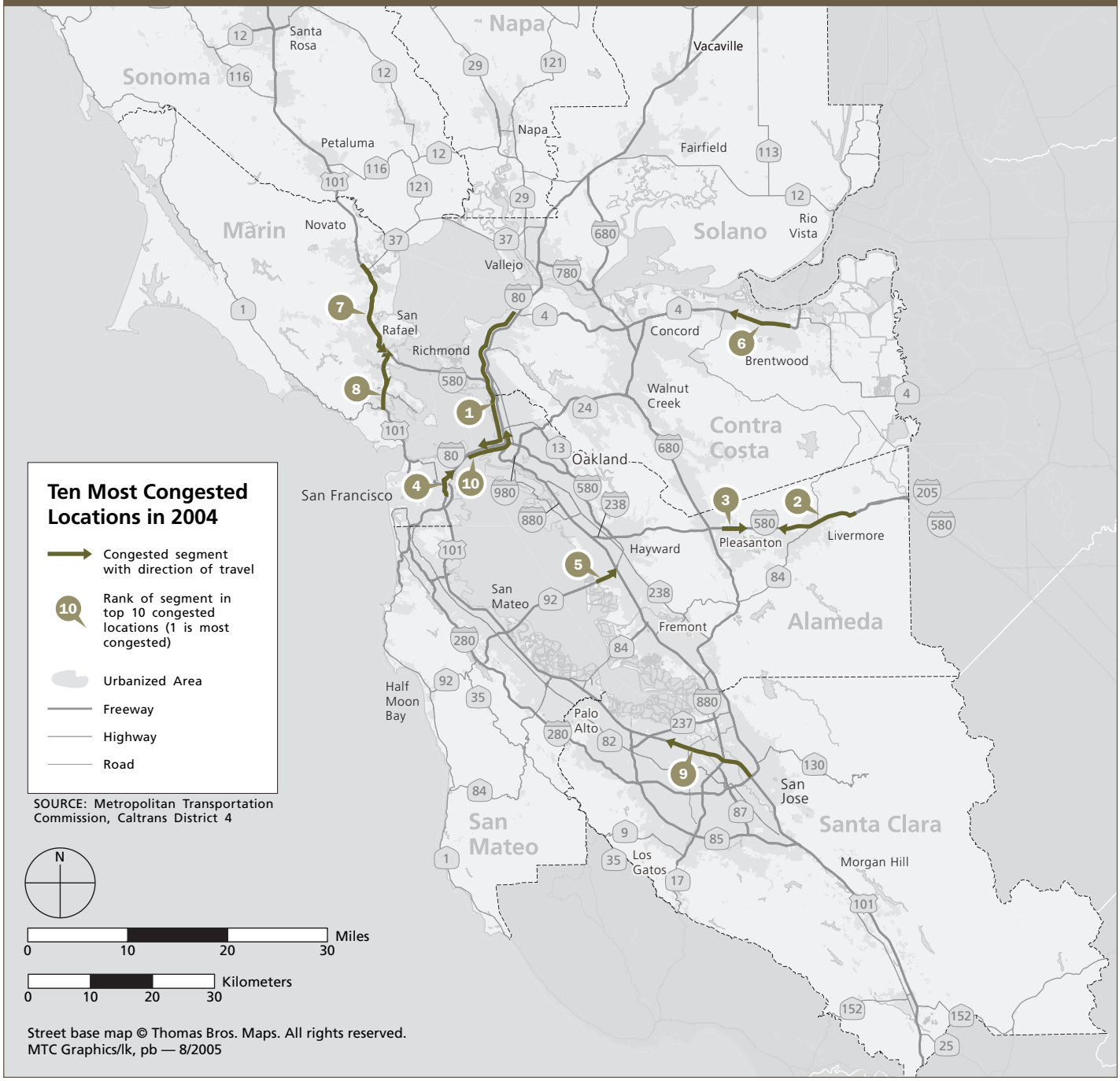
Bay Area Freeway Locations With Most Delay During Commute Hours, 2004

2004 Rank	Location	2004 Daily (Weekday) Vehicle Hours of Delay	2003 Rank	2002 Rank	2001 Rank	2000 Rank
1	**Interstate 80, westbound, a.m. —** Alameda/Contra Costa County *State Route 4 to Bay Bridge metering lights*	10,080	1	1	1	1
2	**Interstate 580, westbound, a.m. —** Alameda County *North Flynn Road to Airway Boulevard*	5,120	3	5	12	14
3	**Interstate 580, eastbound, p.m. —** Alameda County *Hopyard Road to west of El Charro Road*	4,320	3	3	5	13
4	**U.S. 101, northbound and Interstate 80, eastbound, p.m. —** San Francisco *Cesar Chavez Street to west end of Bay Bridge*	3,840	2	4	4	5
5	**Route 92, eastbound, p.m. —** Alameda County *Clawiter Road to I-880 interchange*	3,760	15	35	11	8
6	**Route 4, westbound, a.m. —** Contra Costa County *Lone Tree Way to west of Loveridge Road*	3,600	5	7	15	32
7	**U.S. 101, southbound, a.m. —** Marin County *North of Route 37 to Interstate 580*	3,110	6	9	8	6
8	**U.S. 101, northbound, p.m. —** Marin County *Route 1 to north of Interstate 580*	2,680	20	16	22	22
9	**U.S. 101, northbound, a.m.. —** Santa Clara County *Interstate 280 to north of Trimble Road*	2,560	14	14	42	19
10	**Interstate 80, eastbound, p.m. —** San Francisco and Alameda counties *West of Treasure Island to east of Powell Street*	2,430	18	38	34	41

Sources: Metropolitan Transportation Commission, Caltrans District 4

Rankings are for routes in which continuous stop-and-go conditions occur with few, if any, breaks in the queue. Thus, corridors that have equally severe delays, but where congestion is broken into several segments, may rank lower in this type of congestion listing.

Gridlock's Top 10, 2004



Bridge Crossings Slip Slightly, But Traffic Trends Up on Some Freeways

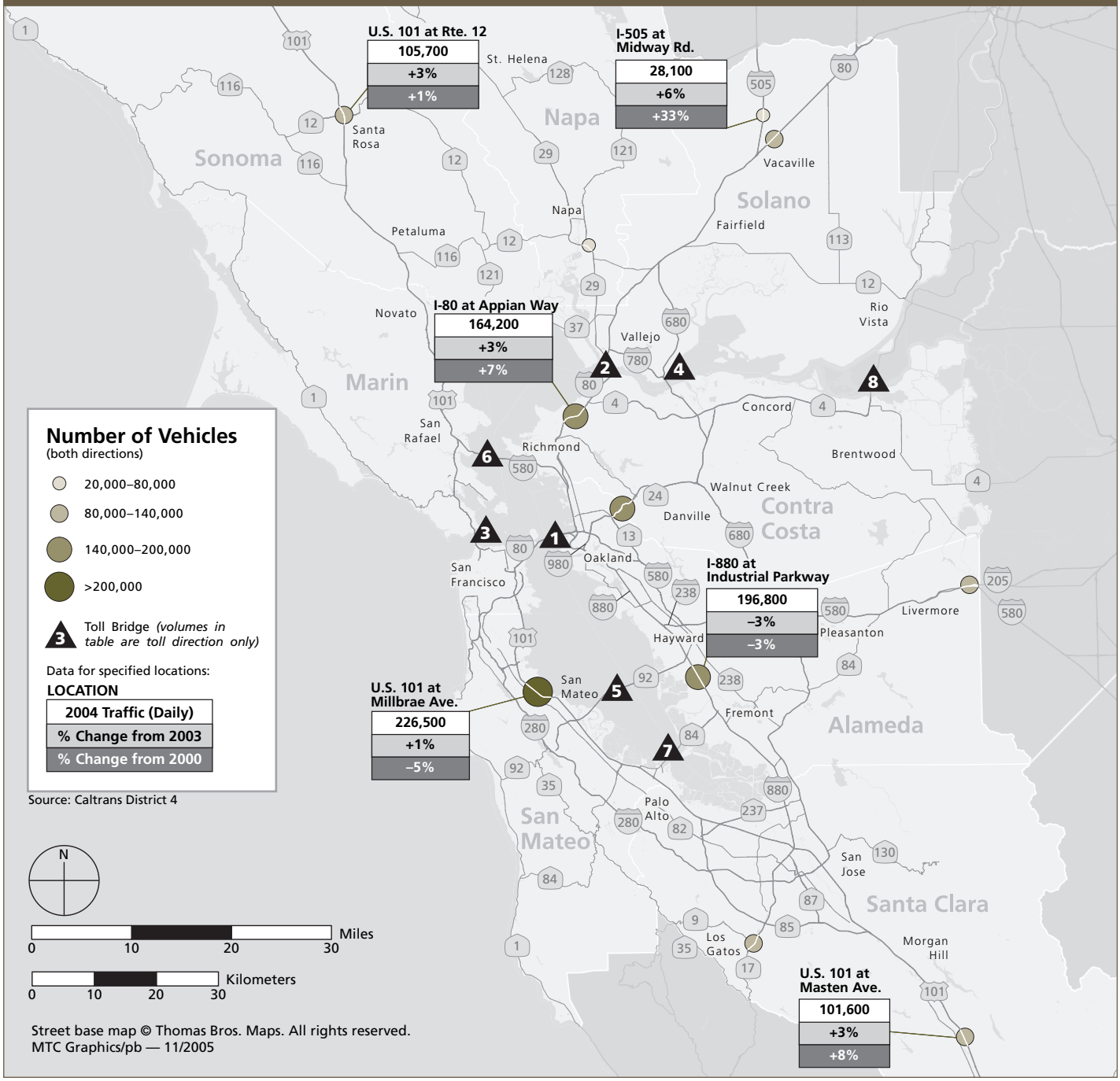
- The volume of traffic on Bay Area toll bridges was virtually flat in 2004, registering a slight decline of less than 1 percent from the 2003 tally. Traffic on each of the individual bridges ran very close to year-ago levels.
- Traffic to San Francisco over both the Bay Bridge and Golden Gate Bridge varied by less than 1 percent over 2003 levels; however 2004 traffic volumes on these bridges remained 4 percent and 8 percent lower than in 2000, reflecting overall economic trends. The 1 percent growth in traffic on the Golden Gate Bridge reverses the declining trend observed since 2000.
- Traffic on the Richmond-San Rafael Bridge declined 3 percent, which may reflect construction impacts due to the seismic retrofit project (recently completed in 2005).
- Traffic on the Antioch Bridge increased 3 percent between 2003 and 2004 and 26 percent from 2000 to 2004. The increased traffic reflects the continued growth at the outer edge of the region and in adjacent counties. Still, the increase is small in absolute terms, since traffic volume on the Antioch Bridge is the lightest in the region.
- The volume of vehicles on selected freeway segments inched up in 2004, paralleling the regional uptick in commute-hour congestion. At sampled locations in Contra Costa, San Mateo, Santa Clara, Solano and Sonoma counties, traffic counts rose from a low of 1 percent to a high of 6 percent.
- An exception to this trend was recorded on Interstate 880 in Hayward (Alameda County), where the volume of vehicles declined 3 percent from 2003 figures.
- In the upper North Bay location of Midway Road on Interstate 505, the volume of traffic has grown by a third since 2000.

Average Daily Traffic on Bay Area Toll Bridges (toll direction only), 2000–2004

	Number of Vehicles					Percent Change	
Bridge	**2000**	**2001**	**2002**	**2003**	**2004**	**2003–2004**	**2000–2004**
1 San Francisco–Oakland Bay	138,200	136,600	137,000	134,700	133,000	–1%	–4%
2 Carquinez	60,400	62,200	64,100	64,000	64,000	0%	+6%
3 Golden Gate	58,100	56,500	54,900	52,700	53,400	+1%	–8%
4 Benicia–Martinez	47,700	49,400	50,800	51,000	50,600	–1%	+6%
5 San Mateo–Hayward	42,600	41,200	42,000	44,700	45,700	+2%	+7%
6 Richmond–San Rafael	34,000	35,400	35,900	35,800	34,800	–3%	+2%
7 Dumbarton	34,200	34,400	33,000	30,500	30,100	–1%	–12%
8 Antioch	5,800	6,500	6,900	7,100	7,300	+3%	+26%
Total All Bridges	**421,000**	**422,200**	**424,600**	**420,500**	**418,900**	**–0.4%**	**–0.5%**

Sources: Bay Area Toll Authority; Golden Gate Bridge, Highway and Transportation District

Average Daily Traffic on Bay Area Highways, 2004 (Selected Locations)



Carpool Lanes Yield Time Savings in Key East Bay, South Bay Corridors

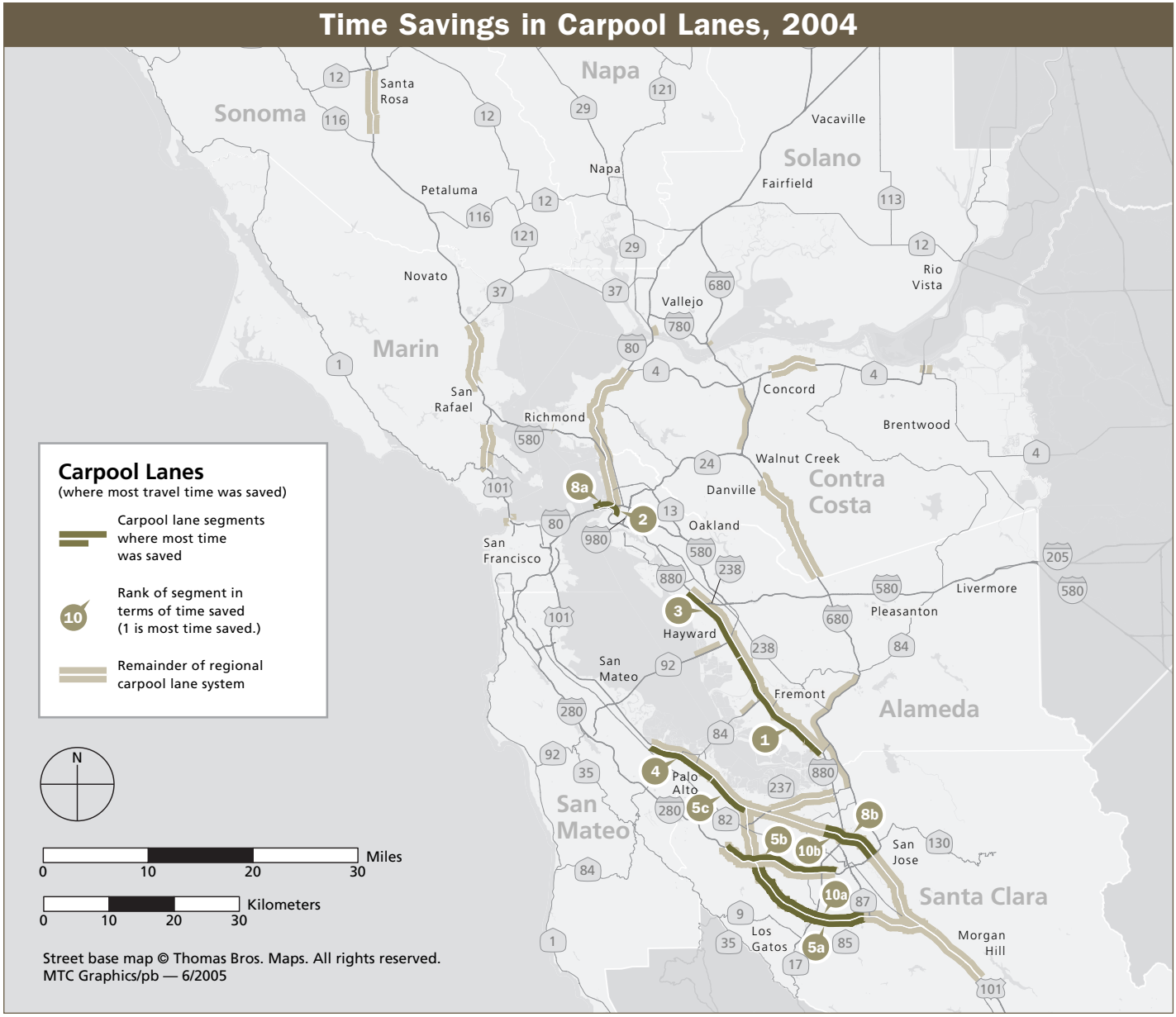
- Peak-hour carpoolers continued to realize significant travel time savings compared to other drivers along several stretches of the region's network of high-occupancy-vehicle lanes.
- On a per mile basis, the carpool lanes leading to the Bay Bridge toll plaza offer the largest savings: an 18-minute time advantage for carpoolers on the 1.2 mile segment on Interstate 880 from 16th Street in Oakland to the toll plaza, and a 13-minute advantage for carpoolers on the four carpool lane approaches from Interstate 80, ranging from 0.4 mile to 1 mile in length.
- Longer stretches on southbound I-880 in Alameda County offer some of the largest time savings to carpoolers: together the two segments between Marina Boulevard and

Bay Area Carpool Lanes Where Most Time Was Saved, 2000–2004

		Minutes Saved per Vehicle in Peak Hour					Change in Minutes Saved	
Rank	Carpool Lane	2000	2001	2002	2003	2004	2003–2004	2000–2004
1	**Interstate 880, southbound, a.m.** — Alameda County *Whipple Road to Mission Boulevard (11.5 miles)*	25	40	40	20	19	–1	–6
2	**Interstate 880, northbound, a.m.** — Alameda County *16th Street to Bay Bridge toll plaza (1.2 miles)*	32	31	23	5	18	+13	–14
3	**Interstate 880, southbound, a.m.** — Alameda County *Marina Boulevard to Whipple Road (8.8 miles)*	14	12	12	18	17	–1	+3
4	**U.S. 101, southbound, a.m.** — San Mateo County *Whipple Avenue to Santa Clara County line (6.9 miles)*	8	9	8	13	15	+2	+7
5a	**Route 85, southbound, p.m.** — Santa Clara County *Interstate 280 to Almaden Expressway (11.8. miles)*	9	15	11	12	14	+2	+5
5b	**Interstate 280, northbound, a.m.** — Santa Clara County *Leland Avenue to Magdalena Avenue (10.7 miles)*	9	8	6	6	14	+8	+5
5c	**U.S. 101, southbound, p.m.** — Santa Clara County *San Mateo County line to Ellis Street (5.5 miles)*	9	9	9	13	14	+1	+5
8a	**Interstate 80, westbound, a.m.**[1] — Alameda County *Bay Bridge toll plaza (4 lanes, 0.4 to 1.0 miles)*	24	24	19	13	13	0	–11
8b	**U.S. 101, northbound, a.m.** — Santa Clara County *I-280/I-680 interchange to Guadalupe Parkway (6 miles)*	16	13	13	13	13	0	–3
10a	**Route 85, northbound, a.m.** — Santa Clara County *Almaden Expressway to Interstate 280 (11.8 miles)*	9	16	9	13	12	–1	+3
10b	**U.S. 101, southbound, p.m.** — Santa Clara County *Guadalupe Parkway to I-280/I-680 interchange (5.0 miles)*	5	12	12	12	12	0	+7

Source: Caltrans District 4

[1]Carpool is three or more persons per vehicle. For all other listed locations, carpool is two or more persons.



Whipple Avenue (ranked 3rd at 17 minutes) and Whipple Avenue and Mission Boulevard (ranked 1st at 19 minutes) offer a 36-minute time advantage to carpoolers traveling the entire 19-mile distance.

- The seven other carpool lanes in the top 10 for travel time savings are on South Bay freeways with well-established carpool lanes (U.S. 101, Interstate 280 and Route 85).

Carpool Lane Popularity Lags, Despite Rise in Congestion in 2004

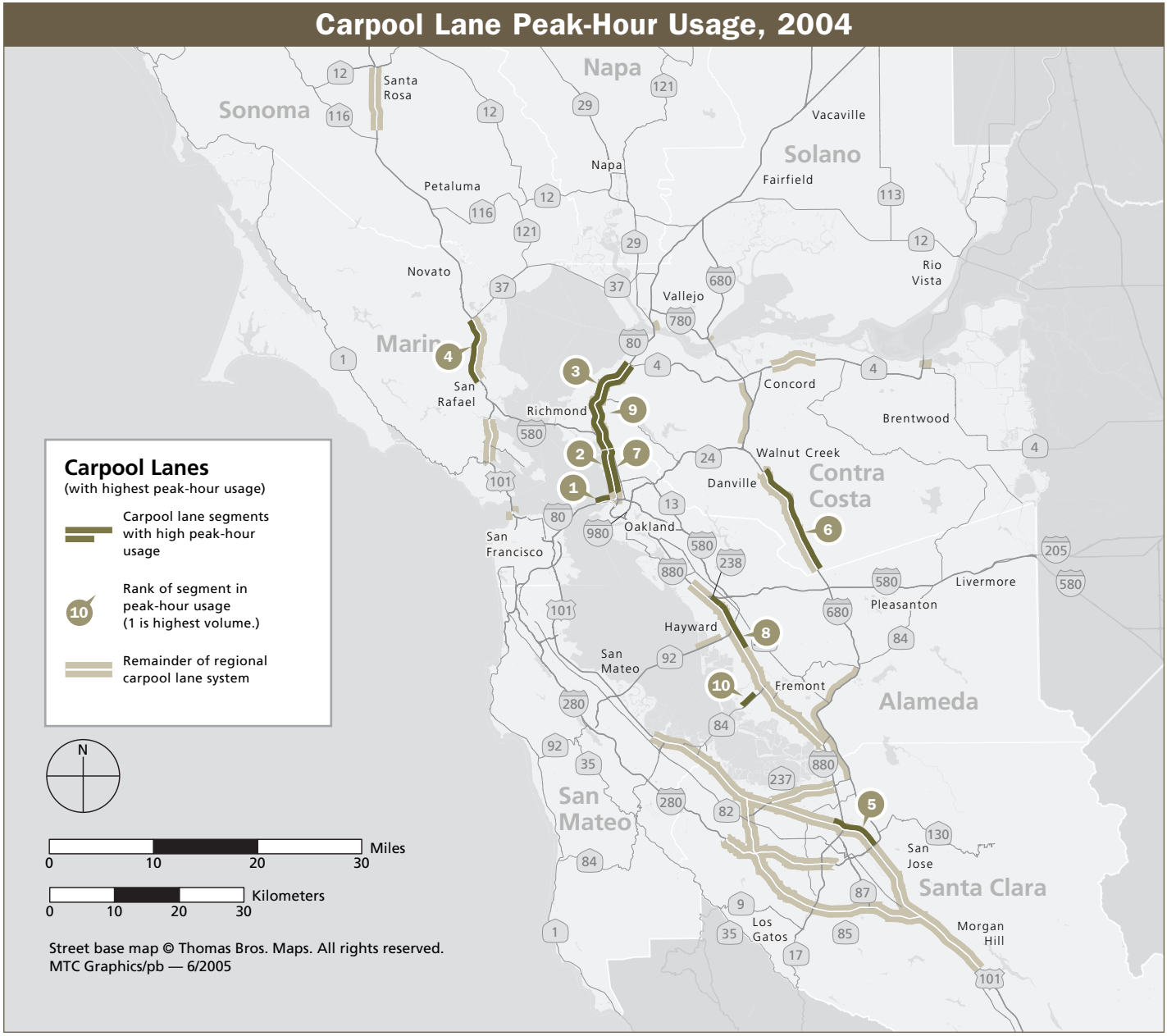
- Carpool lanes on Interstate 80 in Alameda and Contra Costa counties are the region's most heavily used segments. Westbound carpool lanes occupy three of the top 10 slots — not surprising given that the westbound morning commute from State Route 4 to the Bay Bridge has consistently ranked as the region's most congested commute. Two eastbound Interstate 80 carpool lane segments are also among the most heavily used, occupying the number seven and number nine slots.
- In seven of the 10 most heavily used carpool lane segments in 2004, peak-hour vehicle counts were down from the year-earlier period. The explanation for this decrease in carpool lane popularity is not clear, since congestion increased on many freeways in 2004, relative to 2003 levels.
- Over the five-year period from 2000 to 2004, the number of peak-hour, carpool-lane vehicles declined in six of the 10 segments listed. This is consistent with the overall

Bay Area Carpool Lanes With Highest Peak-Hour Usage, 2000–2004

		Peak-Hour Carpool Vehicles[1]					Percent Change	
Rank	Carpool Lane	2000	2001	2002	2003	2004	2003–2004	2000–2004
1	**Interstate 80, westbound, a.m. —** Alameda County *Bay Bridge toll plaza*	3,804	3,975	3,730	3,512	3,628	+3%	–5%
2	**Interstate 80, westbound, a.m. —** Alameda County *Contra Costa County line to Powell Street*	1,113	1,555	1,698	1,512	1,481	–2%	+33%
3	**Interstate 80, westbound, a.m. —** Contra Costa County *Route 4 to Alameda County line*	1,428	1,317	1,285	1,514	1,334	–12%	–7%
4	**U.S. 101, southbound, a.m. —** Marin County *Route 37 to North San Pedro Road*	1,282	1,361	1,361	1,317	1,306	–1%	+2%
5	**U.S. 101, northbound, a.m. —** Santa Clara County I-280/I-680 interchange to Guadalupe Parkway	1,585	1,594	1,490	1,554	1,304	–16%	–18%
6	**Interstate 680, northbound, p.m. —** Contra Costa County *Alcosta Boulevard to Livorna Road*	1,421	1,383	1,374	1,266	1,249	–1%	–12%
7	**Interstate 80, eastbound, p.m. —** Alameda County *Port of Oakland overcrossing to Contra Costa County line*	1,217	1,080	1,070	1,295	1,224	–5%	+1%
8	**Interstate 880, northbound, p.m. —** Alameda County *Whipple Road to south of Interstate 238 interchange*	1,364	1,338	1,264	1,254	1,190	–5%	–13%
9	**Interstate 80, eastbound, p.m. —** Contra Costa County *Alameda County line to Route 4*	1,091	1,332	1,059	1,118	1,189	+6%	+9%
10	**Route 84, westbound, a.m. —** Alameda County *Newark Boulevard to Dumbarton Bridge toll plaza*	1,376	1,354	1,229	1,043	1,181	+13%	–14%

Source: Caltrans District 4

[1]Includes buses, vanpools and motorcycles

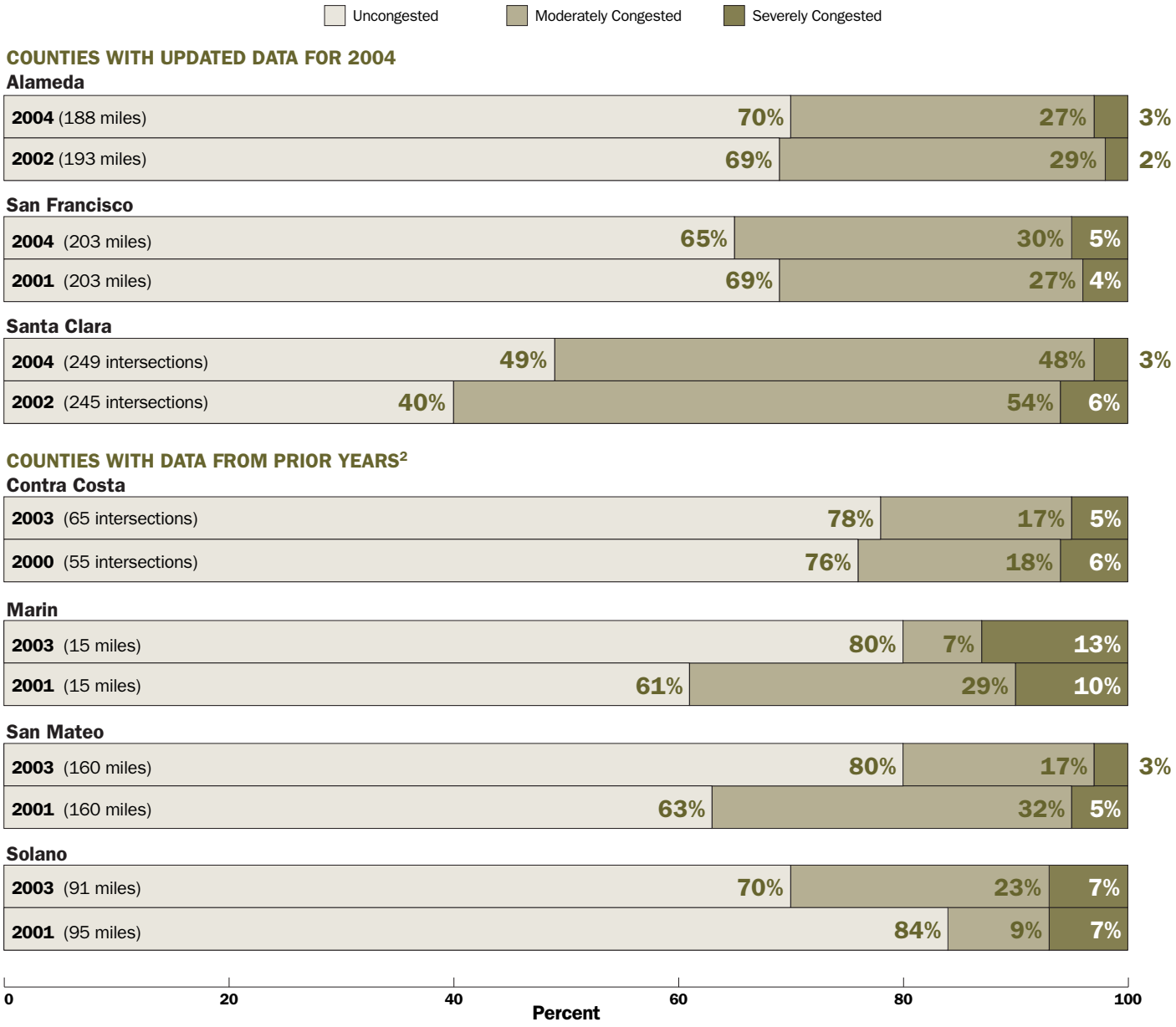


downward trend in congestion during this period. The carpool lanes that stand out as exceptions are on Interstate 80 between Powell Street and the Contra Costa County line. Here, westbound morning carpool volumes increased by 33 percent and eastbound evening carpool volumes increased by 9 percent. Again, this may reflect the unique levels of congestion in the I-80 corridor.

Local Road Congestion Eases in Santa Clara County, Inches Up in San Francisco

- Alameda, San Francisco and Santa Clara counties gathered fresh local roadway congestion data in 2004, and the results paint a mixed picture of evening peak-period traffic conditions in the region's three most heavily urbanized counties.
- Santa Clara County saw the biggest changes in traffic conditions, with a 9 percentage point increase in uncongested intersections and a halving of the level of severe congestion — down from 6 percent in 2002 to 3 percent in 2004. Moderately congested roads declined to 48 percent, from 54 percent. Still, Santa Clara remains the only Bay Area county with a majority (51 percent) of its local roadways classified as either moderately or severely congested.
- San Francisco's traffic worsened slightly, with a 4 percentage point decrease in uncongested roads and a combined 4 percentage point increase in moderate and severe congestion.
- Alameda County experienced only minor variations in traffic conditions between 2002 and 2004.
- Four counties — Contra Costa, Marin, San Mateo and Solano — did not report new roadway congestion figures for 2004. These counties typically collect data in odd-numbered years. In Contra Costa, previously unreleased data for 2003 show a slight improvement in traffic conditions compared to 2000 levels. The proportion of uncongested roads improved by 2 percentage points, with 1 percentage point decreases in the moderate and severely congested categories.

Local Roadway Congestion by County[1] During the P.M. Peak Commute Period



Source: County congestion monitoring reports

[1] Selected road segments and/or intersections; Napa and Sonoma counties do not monitor local roadway congestion.
[2] Current (2004) data is not available for Contra Costa, Marin, San Mateo and Solano counties.

Punctuality Declines for Several Bus Operators; Rail Lines Continue to Post Strong On-Time Results

- On-time performance declined for several of the region's large operators. One likely explanation is that budget constraints forced cuts in staffing, supervisors and service levels.
- AC Transit's on-time performance plummeted from 81 percent in 2002-03 to 56 percent in 2003-04, reversing a two-year trend of improving performance.
- In contrast, VTA (both rail and buses), BART and SamTrans posted small improvements in on-time performance.
- BART, Caltrain and VTA continued to operate rail services with on-time records better than 90 percent.

On-Time Performance of Seven Largest Bay Area Transit Operators, Fiscal Years 1999-2000 – 2003-04

	Percent of Trips on Time by Fiscal Year					
	1999-2000	2000-01	2001-02	2002-03	2003-04	2003-04 Goal
Buses						
Valley Transportation Authority (VTA)[1]	94%	93%	95%	95%	97%	95%
SamTrans[2]	85%	85%	84%	84%	88%	85%
Golden Gate Transit[3]	87%	85%	87%	85%	82%	90%
Muni (electric trolley bus)[4]	NA	64%	74%	74%	72%	85%
Muni (motor bus)[4]	NA	63%	68%	70%	69%	85%
AC Transit[5]	73%	69%	74%	81%	56%	90%
Rail						
VTA[6]	91%	93%	84%	90%	96%	95%
BART[7]	92%	92%	93%	92%	93%	95%
Caltrain[8]	66%	86%	96%	95%	92%	95%
Muni[4]	NA	49%	66%	67%	66%	85%

Sources: AC Transit, Golden Gate Transit, Muni, SamTrans, VTA, Caltrain, BART

Notes:

[1] No more than 5 minutes late
[2] No more than 5 minutes late; prior to 2001-02, no more than 5 minutes late or 1 minute early
[3] Less than 5 minutes late and 1 minute early (bus only); prior to 2001-02, no more than 5 minutes late.
[4] No more than 4 minutes late or 1 minute early
[5] Never early and no more than 5 minutes late
[6] No more than 3 minutes late
[7] Less than 5 minutes late at scheduled terminal stations
[8] Train arrived at the end of the station within 5 minutes of scheduled time

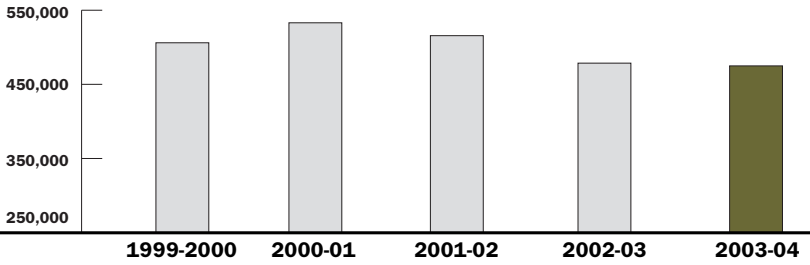
Peter Beeler

Transit Ridership Falls to Seven-Year Low in 2003-04, But Largest Operators Buck Downward Trend

- Transit ridership declined for the third year in a row in 2003-04, decreasing by 1 percent to 475 million — the lowest level of ridership since 1997-98. But following declines of 7 percent in 2002-03 and 3 percent in 2001-02, the rate of decline appears to have slowed for the first time since ridership peaked in 2000-01, the height of the region's economic expansion. (Also, partial-year results reported by some transit operators in 2005 indicate a reversal of the ridership slide.)
- In contrast with prior years, ridership on the three largest operators (Muni, BART and AC Transit) held steady or increased slightly from the prior year.
- Midsized operators such as VTA and SamTrans experienced ridership losses in the double digits. Such

Ridership on Bay Area Transit Systems by Operator, Fiscal Years 1999-2000 – 2003-04

	Thousands of Annual Boardings					Percent Change	
Operator	**1999-2000**	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2002-03–2003-04**	**1999-2000–2003-04**
Muni	226,182	236,205	234,303	216,947	217,049	0%	–4%
BART	97,024	103,919	97,351	93,799	98,026	+5%	+1%
AC Transit	68,088	71,529	69,531	62,755	64,906	+3%	–5%
Valley Transportation Authority	55,701	58,160	53,710	46,864	39,776	–15%	–29%
SamTrans	17,925	18,136	17,387	16,859	15,064	–11%	–16%
Golden Gate Transit	11,465	11,618	10,676	10,261	9,789	–5%	–15%
Caltrain	8,735	9,925	8,138	7,870	8,015	+2%	–8%
Other Operators	20,986	23,546	24,460	23,232	22,391	–4%	+7%
Total – All Operators	**506,106**	**533,038**	**515,556**	**478,587**	**475,016**	**–1%**	**–6%**



Sources: Metropolitan Transportation Commission and transit operators

Data for FY 2003-04 is provisional.

decreases in ridership likely resulted from service cuts (11 percent cut in revenue-miles of service by VTA and 7 percent by SamTrans) in 2003-04 due to budget constraints. Along with Golden Gate Transit, these operators experienced the largest cumulative decrease in ridership over the five-year period from 1999-2000 to 2003-04.

A Closer Look at Top 10 Ridership Bus Routes, by Boardings

- There is a large degree of year-to-year consistency in the list of the most heavily used Bay Area bus routes.
- Significantly, the number one and two routes carry more than twice as many passengers on an average weekday as the number nine and 10 routes.
- In 2003-04, eight of the top 10 bus routes were operated by San Francisco Muni, which also boasts the largest ridership among all Bay Area transit operators.

Top 10 Bay Area Bus Routes, by Boardings

Rank	Route	Average Weekday Boardings 2003-04	2002-03 Rank
1.	SF Muni: 38 Geary	49,300	1
2.	SF Muni: 14 Mission	47,200	2
3.	SF Muni: 9 San Bruno	32,100	4
4.	SF Muni: 30 Stockton	30,800	6
5.	SF Muni: 49 Van Ness/Mission	28,900	3
6.	SF Muni: 1 California	27,800	5
7.	SF Muni: 15 Third St.	25,300	6
8.	Valley Transportation Authority: 22 Eastridge – Palo Alto/Meno Park	20,500	8
9.	AC Transit: 82 International/East 14th	20,100	NA
10.	SF Muni: 22 Fillmore	19,600	9

Sources: Muni, VTA, AC Transit